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Assessing cardiac resynchronization therapy response in heart failure patients: a comparative analysis of efficacy and outcomes between transvenous and epicardial leads

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Supplementary Table 1. Reasons which led to epicardial lead implantation.

Reason	N (%)
Absence of suitable tributaries veins	20 (35%)
Unfeasible coronary sinus cannulation	11 (19%)
Anatomic cardiac venous anomaly	5 (9%)
Transvenous lead dislodgement	5 (9%)
Device endocarditis with lead extraction	5 (9%)
High pacing thresholds	4 (7%)
Subclavian vein occlusion/stenosis	4 (7%)
Coronary sinus dissection	2 (4%)
Contrast allergy	1 (1%)
TOTAL	57 (100%)

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Supplementary Table 2. Leads specific parameters (pacing threshold, impedance and sensing) at post-implant and at 1-year evaluations after device implantation, according to the LV lead type.

	All (n=149)	Transvenous leads (N=92)	Epicardial leads (N=57)	p-value
RA				
Pacing threshold PO (V)	0.70 ± 0.23	0.67 ± 0.21	0.76 ± 0.26	0.209
Pacing threshold 1 year (V)	0.71 ± 0.28	0.70 ± 0.24	0.73 ± 0.33	0.756
pacing threshold (V)		0.053 ± 0.22	0.059 ± 0.33	0.949
Impedance PO (Ω)	627 ± 137	627 ± 108	626 ± 172	0.998
Impedance 1 year (Ω)	604 ± 143	617 ± 152	588 ± 135	0.589
Impedance (Ω)		-8 ± 85	7 ± 83	0.626
Sensing PO (mV)	3.52 ± 2.18	3.16 ± 1.71	4.00 ± 2.64	0.186
Sensing 1 year (mV)	3.64 ± 3.28	3.22 ± 1.81	4.11 ± 1.87	0.457
Sensing (mV)		0.36 ± 2.55	0.14 ± 3.77	0.843
RV				
Pacing threshold PO (V)	0.83 ± 0.41	0.85 ± 0.41	0.81 ± 0.42	0.836
Pacing threshold 1 year (V)	0.89 ± 0.55	1.05 ± 0.66	0.69 ± 0.28	0.029
pacing threshold (V)		0.16 ± 0.41	-0.21 ± 1.03	0.104
Impedance PO (Ω)	513 ± 137	512 ± 153	514 ± 119	0.947
Impedance 1 year (Ω)	484 ± 122	484 ± 125	485 ± 121	0.992
Impedance (Ω)		-7 ± 79	-11 ± 52	0.873
LV				
Pacing threshold PO (V)	1.11 ± 0.52	1.16 ± 0.59	1.06 ± 0.42	0.433
Pacing threshold 1 year (V)	1.33 ± 0.55	1.22 ± 0.57	1.46 ± 0.61	0.466
Pacing threshold (V)		0.09 ± 0.50	0.36 ± 1.56	0.407
Impedance PO (Ω)	502 ± 218	610 ± 224	371 ± 115	P<0.001
Impedance 1 year (Ω)	545 ± 263	679 ± 281	392 ± 123	P<0.001
Impedance (Ω)		38 ± 167	13 ± 48	0.494
Sensing PO (mV)	17.93 ± 6.19	16.99 ± 6.7	19.16 ± 5.74	0.402
Sensing 1 year (mV)	18.51 ± 5.67	17.34 ± 4.59	19.84 ± 6.82	0.413
Sensing (mV)		-0.90 ± 2.82	0.69 ± 1.30	0.196

LV, left ventricle; PO, postoperative; RA, right atrium; RV, right ventricle.

Supplementary Table 3. Clinical events during the follow-up period of the study after cardiac resynchronization therapy implantation.

	All (n=149)	Transvenous leads (n=92)	Epicardial leads (n=57)	p-value
MACE, n (%)	44 (30%)	26 (28%)	18 (32%)	0.591
HF hospitalization, n (%)	42 (28%)	26 (28%)	16 (28%)	0.917
CV mortality, n (%)	14 (9%)	6 (7%)	8 (14%)	0.060
All-cause mortality, n (%)	38 (26%)	18 (20%)	20 (35%)	0.005
<i>Postoperative</i>	0	0	0	
<i>Short term (within first 3</i>	1	0	1	
<i>months)</i>	2	1	1	
<i>Middle term (3-12 months)</i>	35 (92%)	17 (94%)	18 (90%)	
<i>Long term (> 12 months)</i>				
				0.921

CV, cardiovascular; HF, heart failure; MACE, major adverse cardiovascular events.